

VK09

SERVICE NOTES
First Edition

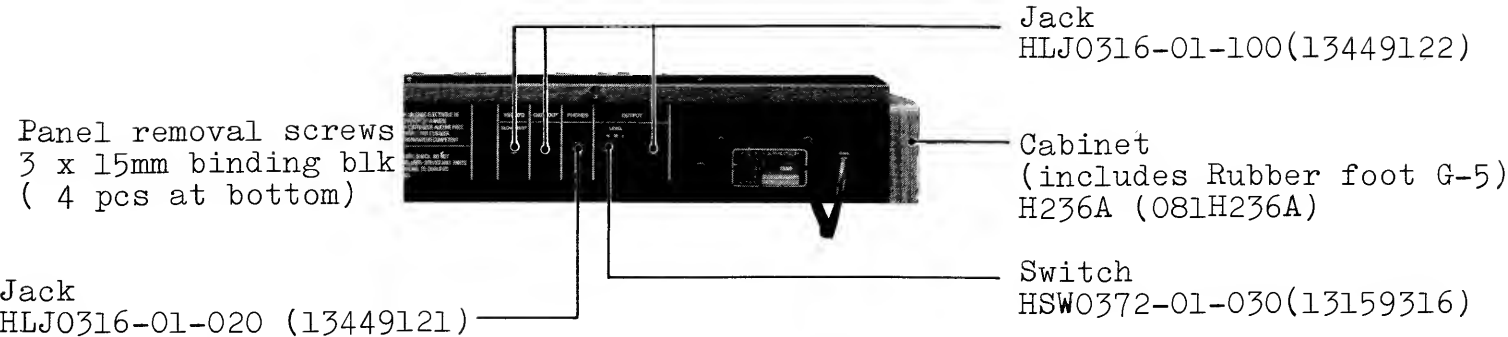
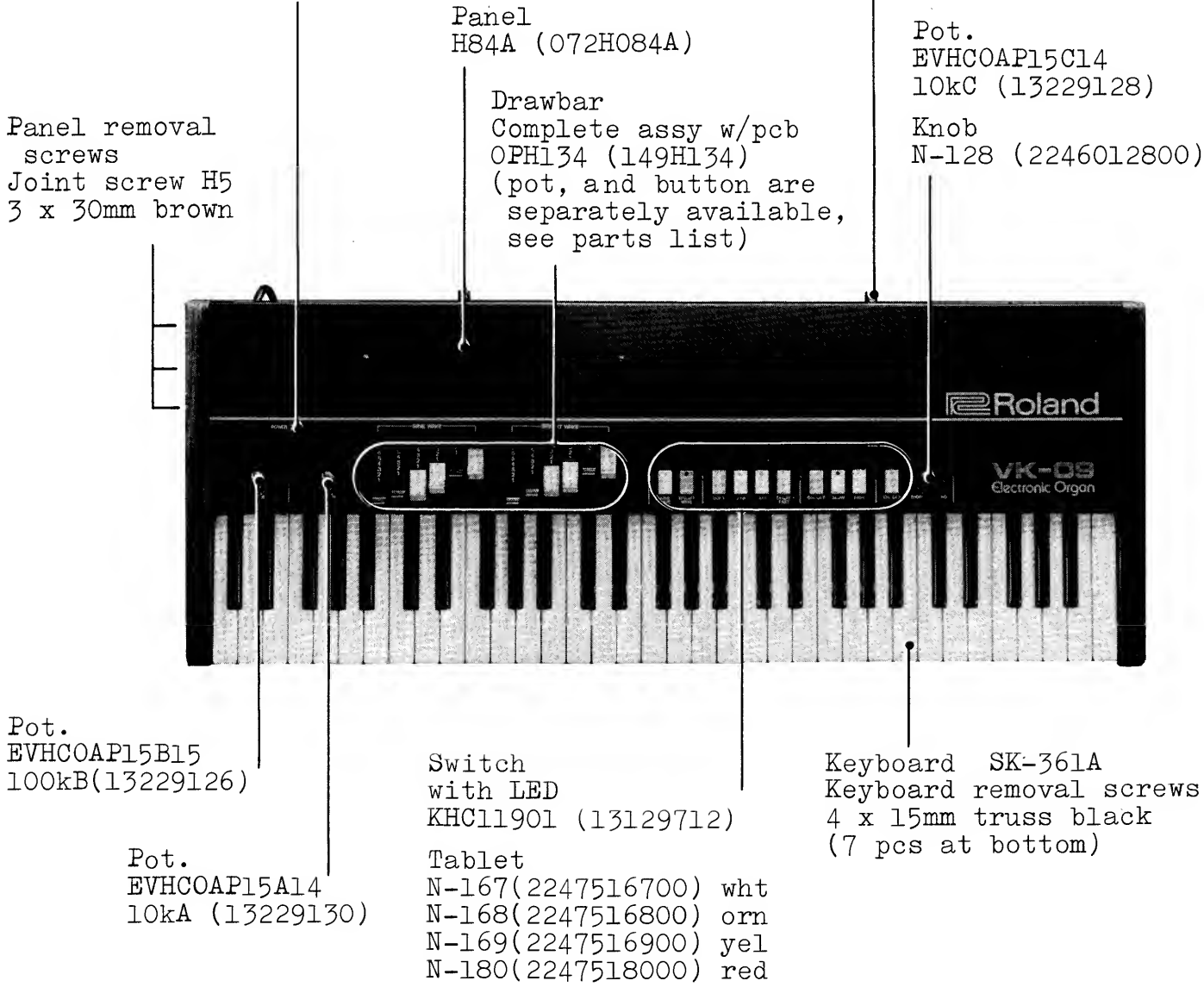
●SPECIFICATIONS

- Keyboard 61 Keys; C₁ ~ C₆
- Drawbars Sine Wave
16', 5-1/3', 8', 4', 2-2/3', 2'
Bright Wave
16', 5-1/3', 8', 4', 2-2/3', 2'
- Control Panel
Tune..... ±50 cents

- Rear Panel
Jack ... Output Jack, Headphone Jack (8Ω: Stereo)
Vibrato, Slow/Fast Select Footswitch Jack (DP-2)
Gate Output Jack (OFF: OV/ON: +15V)
Switch Output Level L/M/H
(-24dBm/-12dBm/0dBm)
- Dimensions 892(W)x106(H)x347(D)mm
- Power consumption 12W
- Weight 9kg

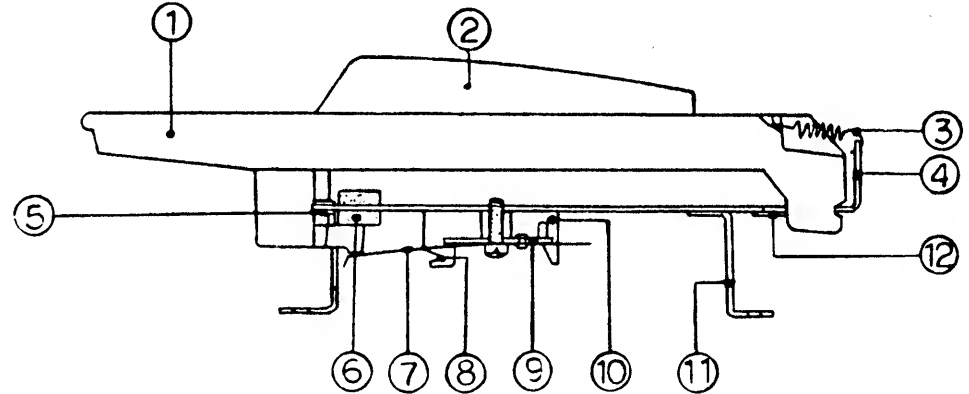
Power switch
SDG5P001-1 (13129101) 100V
SDG5P001-2 (13129102) 117V
SDG5P502 (13129103) 220/240V
Button
N-506 (2247050600)

Musick rack
holder
H110(064H110)



KEYBOARD PARTS

NO.	PART NO.	DESCRIPTION	NO.	PART NO.	DESCRIPTION
1	106H026	Natural key C, F	5	068H004	Guide bush H4
1	106H027	Natural key D	6	101H143	Level felt H143
1	106H028	Natural key E, B	7	071H044	Contact leaf H44
1	106H029	Natural key G	8	071H049	Bus bar 6lp H49
1	106H030	Natural key A	9	043H007	Switch unit 12p H7
1	106H031	Natural key C! F'	9	043H008	Switch unit 13p H8
2	106H032	Sharp key	10	104H029	Holder H29
3	070H029	Key spring H29	11	062H024	Chassis bracket H24
4	061H086A	Chassis H86A	12	098H006	Key stopper H6



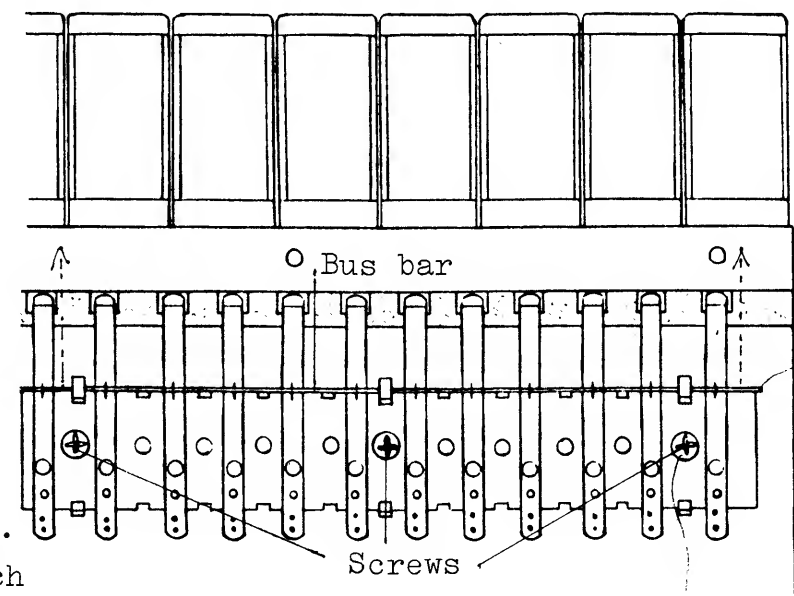
HOW TO REMOVE KEY and KEYSWITCH UNIT

Key

1. Remove key stopper ⑫.
2. Remove key spring ③.
3. Slide key leftwards and lift it out of chassis.
4. When inserting a new key, take care not to bend contact leaf ⑦ with the key leg.

Keyswitch unit

1. Pull bus bar upward out of hooks.
2. Remove three screws on the switch unit, it's ready to remove.



PARTS LIST

Roland has employed new part codings (8-10 digits). Being in transition period, two other codings are still effective on this list.

When ordering replacements, callout parts in full number followed by part name whichever coding they are designated by.

Keyboard SK-361A			
CASE			
081H236A	Cabinet	H236A	
	Rubber foot	G-5	
072H084A	Panel	H84A	
064H110	Holder	H110	music rack
092H009	Music rack	H09	

KNOB. BUTTON. TABLET			
2247050600	Button	N-506	blk power sw.
2247012800	Knob	N-128	pot.
2247516700	Tablet	N-167	wht
2247516800	Tablet	N-168	orn
2247516900	Tablet	N-169	yel
2247518000	Tablet	N-180	red

SWITCH			
13129101	SDG5P001-1	power	100V
13129102	SDG5P001-2	power	117V
13129103	SDG5P502	power	220/240V
13159316	HSW0372-01-030	slide	
13129712	KHC11901	w/LED	tablet

JACK			
13449122	HLJ0316-01-100		
13449121	HLJ0316-01-020	stereo	PHONES

COIL. TRANSFORMER			
022H043J	PT-H43J	power	100V
022H043C	PT-H43C	power	117V
022H043D	PT-H43D	power	220/240V
022-135	Coil 40M-067-018	10uH	osc.

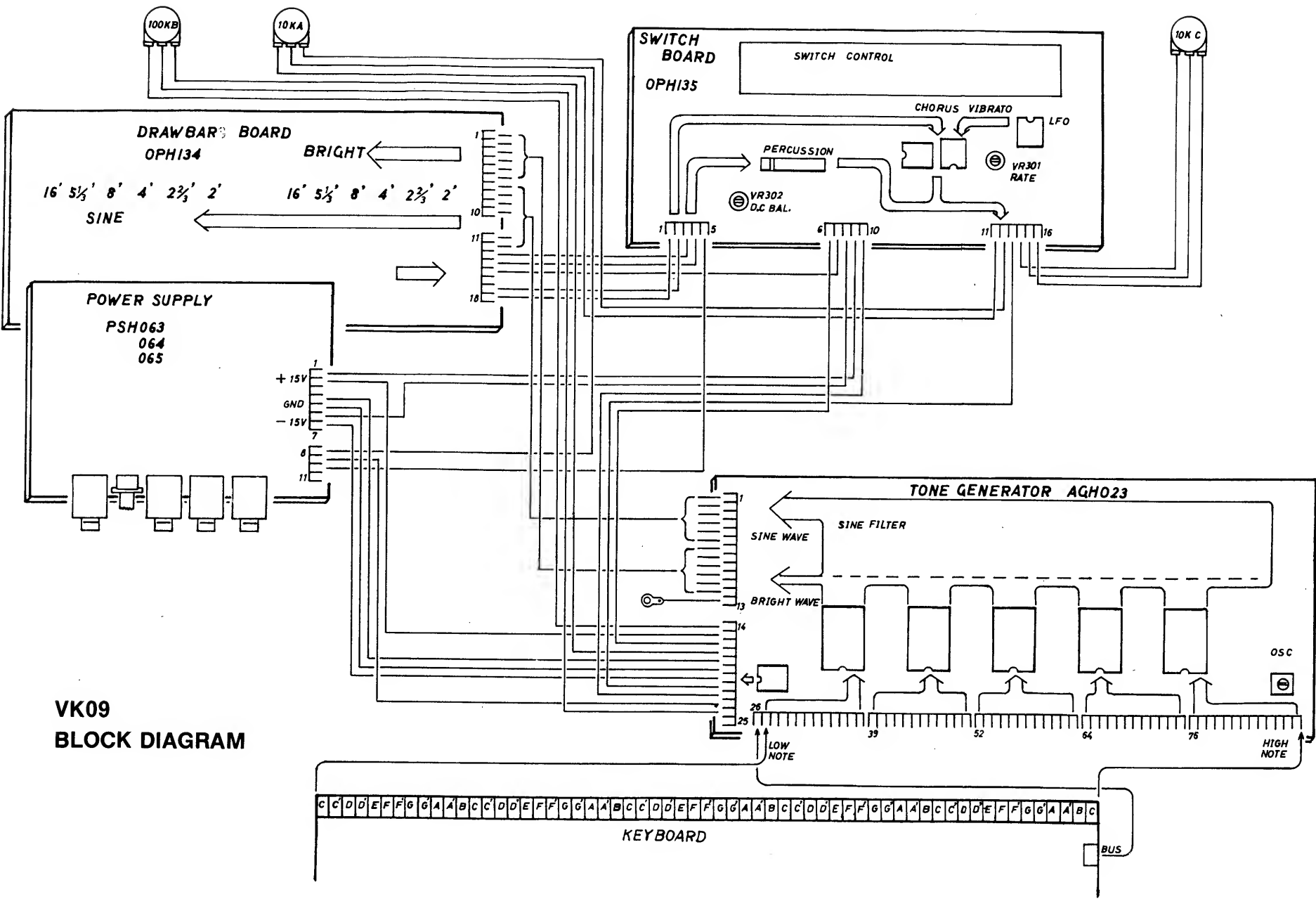
PCB ASSEMBLY			
144H023A	AGH023A (pcb 052H322A)	DRAWBAR	GENERATOR
149H134A	OPH134A (pcb 052H323A)	DRAWBAR	
149H135B	OPH135B (pcb 052H324B)	SWITCH	
146H063B	PSH063B (pcb 052H325B)	P.SUPPLY	100V
146H064B	PSH064B (pcb 052H325B)		117V
146H065B	PSH065B (pcb 052H325B)		220/240V

SEMICONDUCTOR			
IC			
15199504	TA7222AP	amp	
15179125	TMS3617NS	chromatic div'r/keyer	
15159124T0	TC4093BP	quadruple 2-input NAND shimitt	
15159106T0	TC4016BP	quad bilateral switch	
15159104T0	TC4011BP(or HD14011BP)	quad 2-in NAND	gate
15159105T0	TC4013BP(or HD14013BP)	dual D Flip-Flop	
15199110T0	TA7179P	regulator	
15229802	BA662A (or B)	vari-conductance amp	
15169504	MN3101	BBD driver	
15219213	MN3009	BBD 256-stage	
15189105	uPC4558C	dual op amp	
Transistor			
15119602	2SB647		
15119112	2SA1015-Y	or GR	
15129115	2SC1815-Y	or GR	
15139101	2SK30ATM-Y	FET	
15119805	2SB834-0		
15129815	2SD880-0		

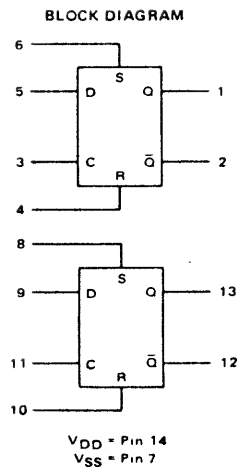
Diode			
15019548	RD12EB	or 05Z12U	zener
15019103	1S2473	or M8555	
15019245	1B4B41	rectifer bridge	1.0A 100V

POTENTIOMETER			
13229126	EVHCOAP15A14	10kA	
13229128	EVHCOAP15C14	10kC	
13229130	EVHCOAP15B15	100kB	
compatible with EVHCOAK15			
Trimmer			
13229113	H1051A011-(SR19R)	4.7KB	
13229114	H1051A013-(SR19R)	10KB	
Drawbar			
	pot w/knob		
003H001	Drawbar H1		2'
003H002	Drawbar H2		2-2/3'
003H003	Drawbar H3		4'
003H004	Drawbar H4		8'
003H005	Drawbar H5		5-1/3'
003H006	Drawbar H6		16'
potentiometer only			
. . .	S401XKA03-2.7KC		
knob only			
. . .	Knob #19	2-2/3'	
. . .	Knob #21	5-2/3'	
. . .	Knob #21	16'	
. . .	Knob #20	8'	
. . .	Knob #20	4'	
. . .	Knob #20	2'	

FUSE			
12559133	MGP0001 1A	prim.	100V
12559311	MGP0001 1A	csa prim.	117V
12559511	CEE T500mA(s)	prim.	220/240V
12559513	CEE T1A(s)	second	220/240V



VK09
BLOCK DIAGRAM



TRUTH TABLE

CLOCK ¹	INPUTS				OUTPUTS	
	DATA	RESET	SET		Q	Q̄
0	0	0	0		0	1
1	1	0	0		1	0
X	X	0	0	0	Q	Q̄
X	X	1	0	0	0	1
X	X	0	1	0	1	0
X	X	1	1	1	1	1

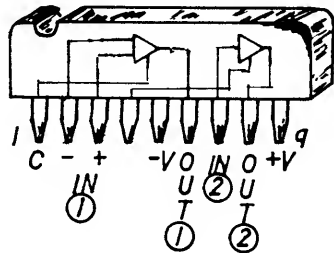
X = Don't Care
1 = Level Change

No Change

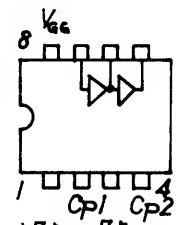
TC4013BP



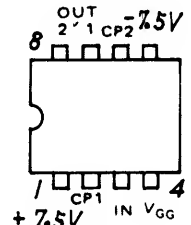
2SK30A GR
2SK30A Y



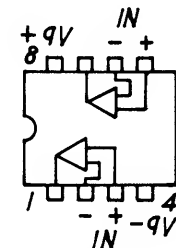
BA662



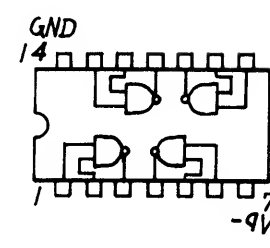
MN3101



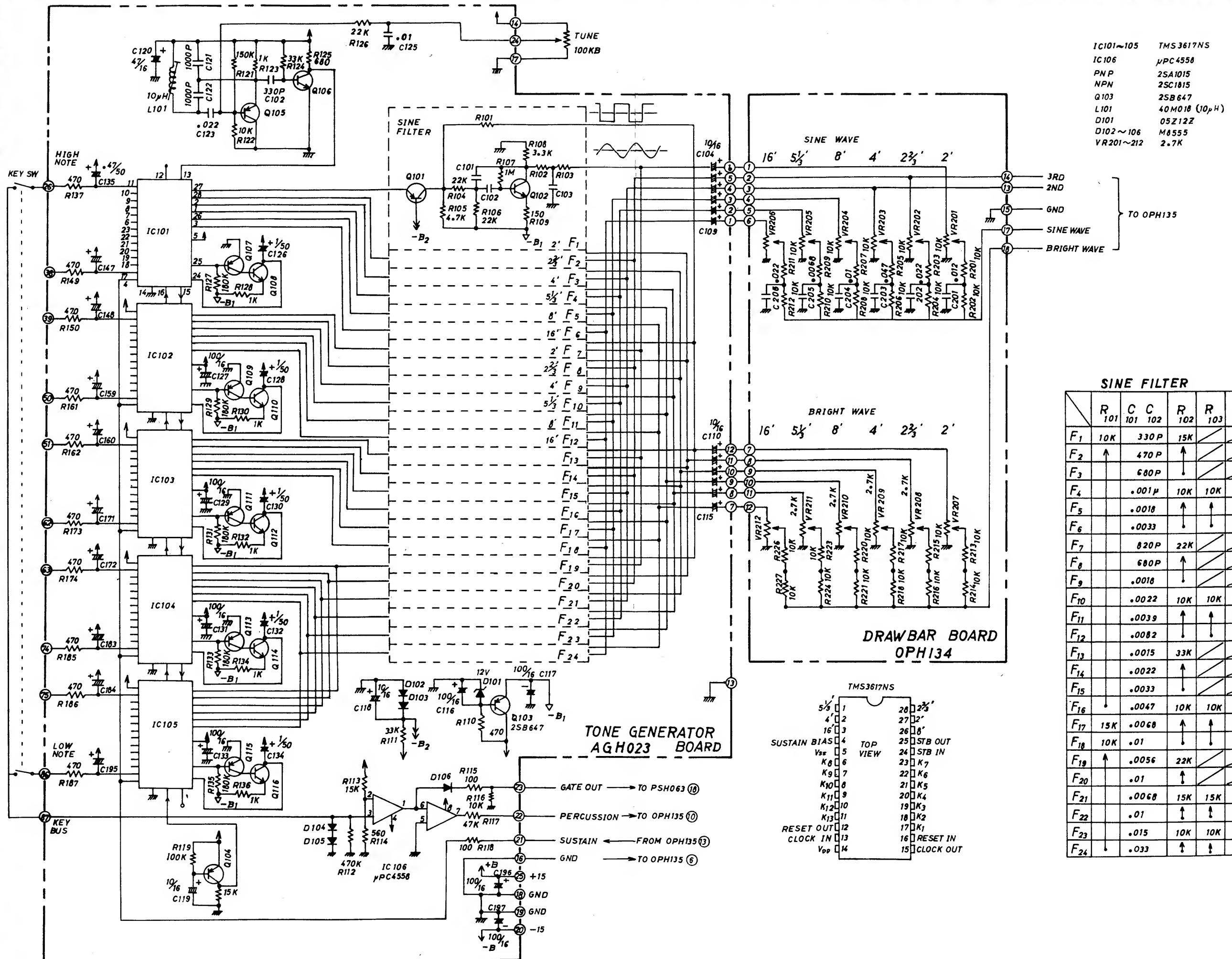
MN3009



JPC4558



TC4011BP



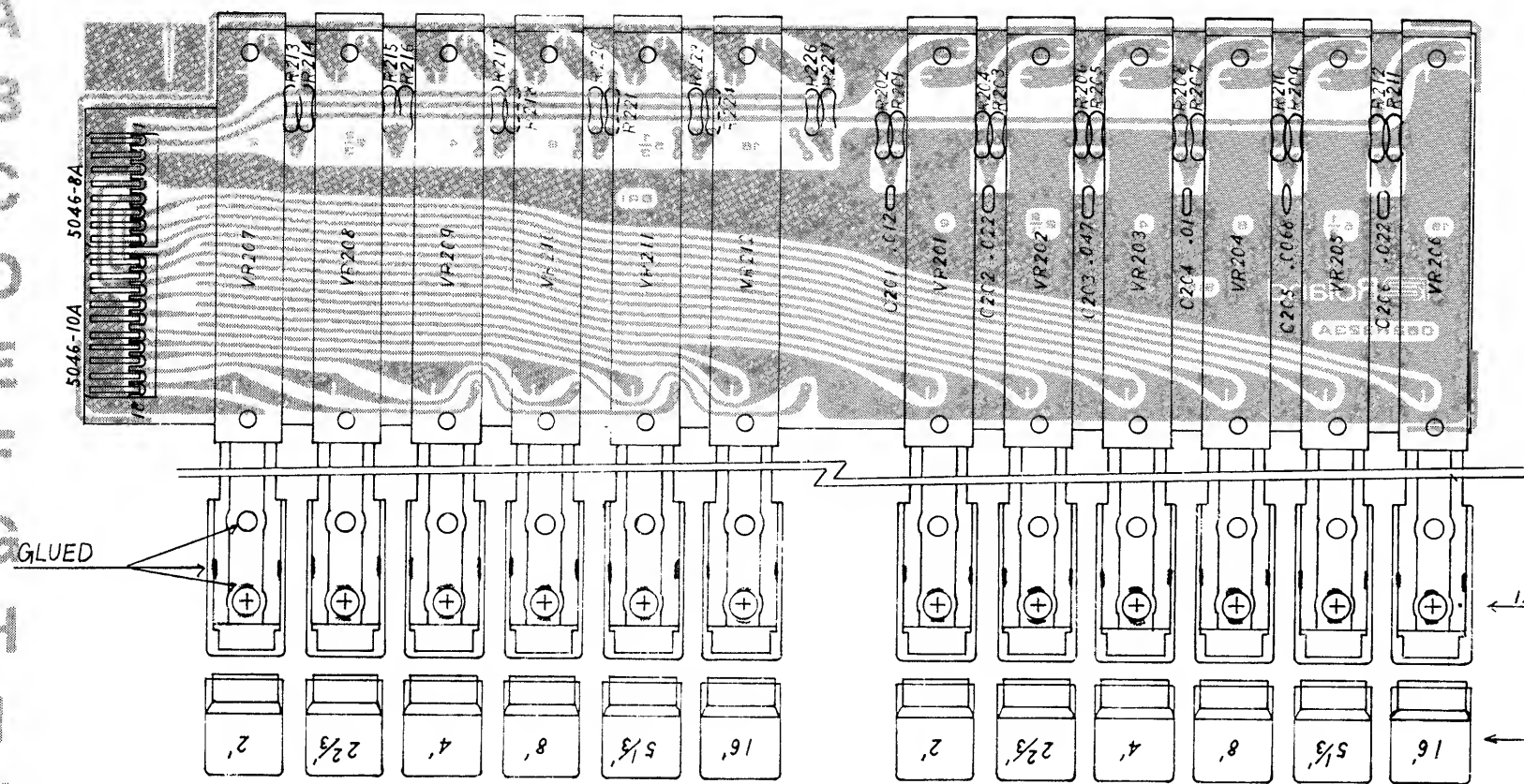
IC101~105 TMS3617NS
 IC106 μ PC4558
 PNP 2SA1015
 NPN 2SC1815
 Q103 2SB647
 L101 40M018 (10 μ H)
 D101 05Z12Z
 D102~106 M8555
 VR201~212 2.7K

SINE FILTER

	R ₁₀₁	C ₁₀₁	C ₁₀₂	R ₁₀₂	R ₁₀₃	C ₁₀₃
F ₁	10K	330P	15K			
F ₂		470P				
F ₃		680P				
F ₄		.001 μ	10K	10K	.018	
F ₅		.0018			.027	
F ₆		.0033			.027	
F ₇		820P	22K			
F ₈		680P				
F ₉		.0018				
F ₁₀		.0022	10K	10K	.027	
F ₁₁		.0039			.082	
F ₁₂		.0082			.047	
F ₁₃		.0015	33K			
F ₁₄		.0022				
F ₁₅		.0033				
F ₁₆		.0047	10K	10K	.056	
F ₁₇	15K	.0068			.1	
F ₁₈	10K	.01			.082	
F ₁₉		.0056	22K			
F ₂₀		.01				
F ₂₁		.0068	15K	15K	.027	
F ₂₂		.01			.056	
F ₂₃		.015	10K	10K	.082	
F ₂₄		.033			.1	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41

A
B
C
D
E
F
G
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Q
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V

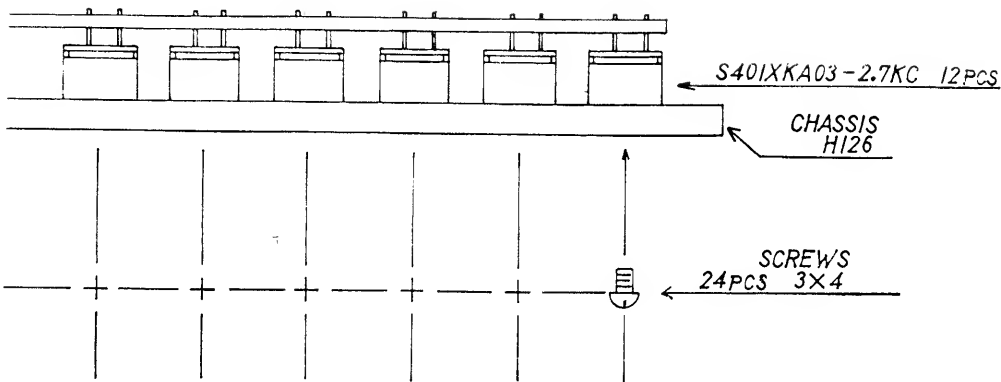


DRAWBAR BOARD
OPH134A (149H134A)
(pcb 052H323A)

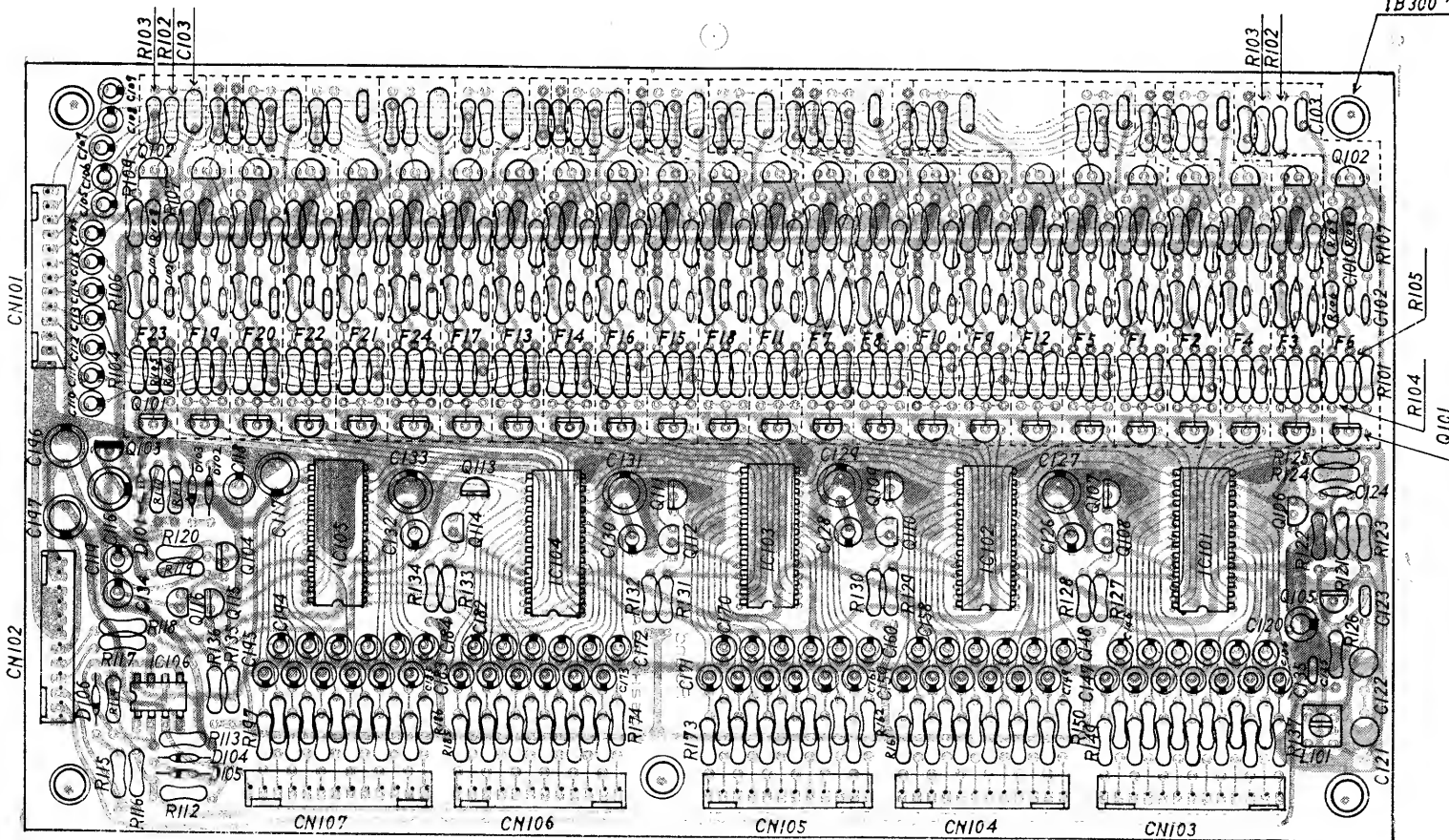
Knob
2 2/3 : *19 BLACK
5 2/3, 16' : *21 BROWN
8', 4', 2' : *20 IVORY

SCREWS
12 PCS 3X8 B1

Knobs 12 PCS



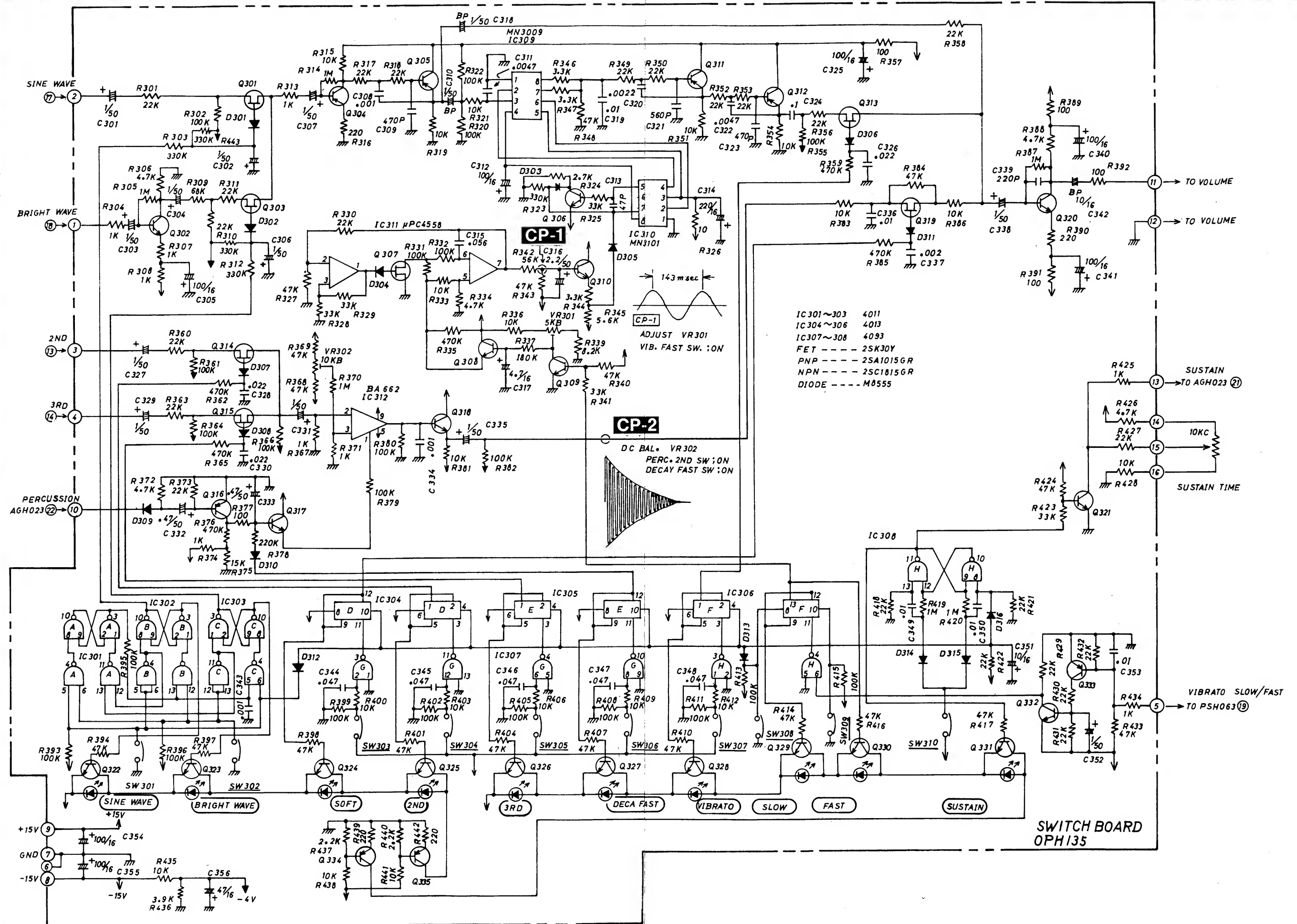
COLLAR BUSH
TA307
TB300 X5

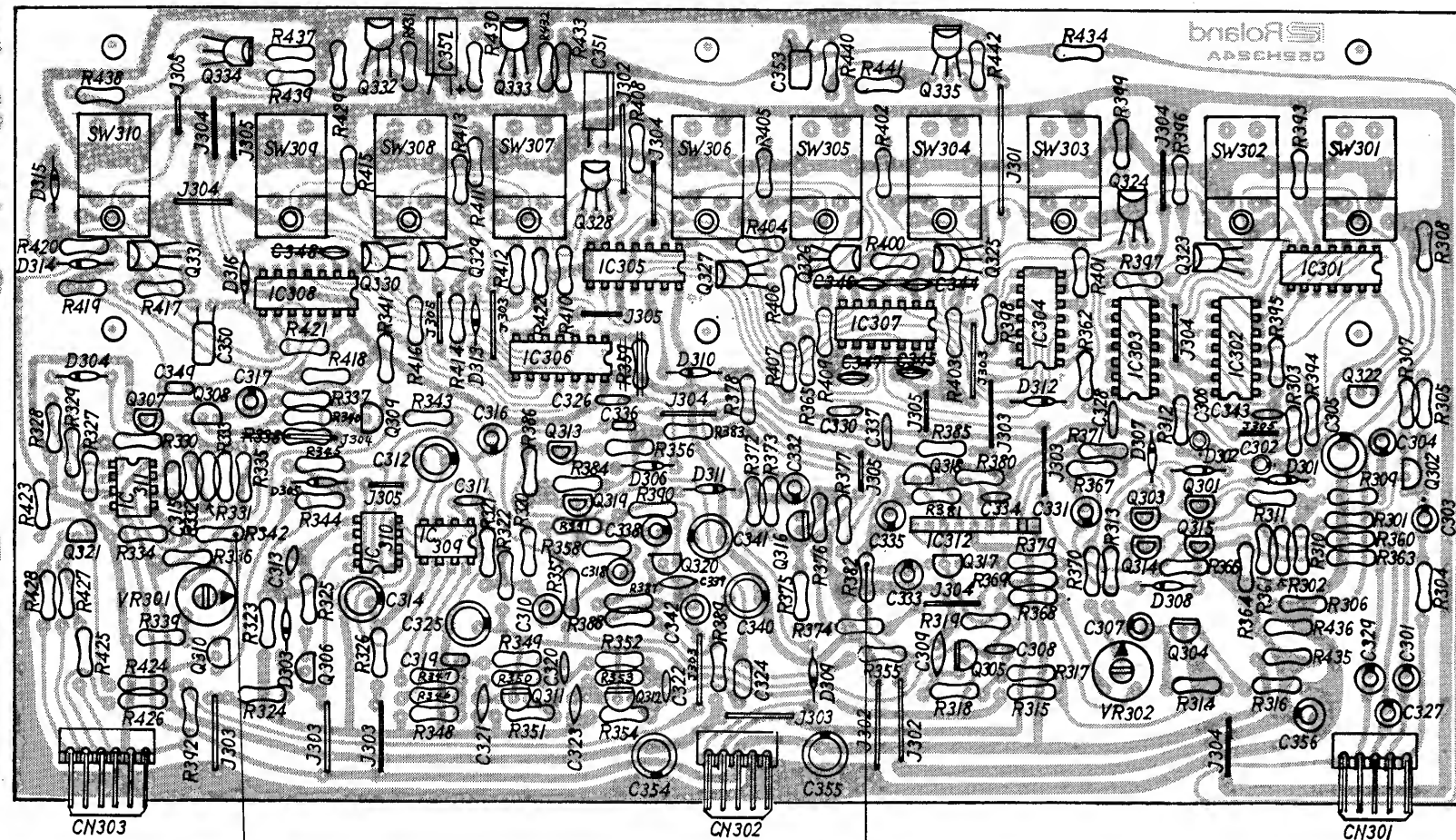


TONE GENERATOR
AGH023A (144H023A)
(pcb 052H322A)

ICs : IC101~IC105 TMS3617NS 5pcs
IC : IC106 μ PC4558C
Diodes : DI01 RD12EB or 05Z12U
Diodes : DI02~DI06 1S2473 or MB555 5pcs
Transistor : Q103 2SB647
Transistors : 2SA1015Y or 6R 31pcs
Transistors : 2SC1815Y or 6R 30pcs

FROM OPH134





CP-1

CP-2

TRANSISTORS

- : 2SC1015Y GR
- : 2SA1015Y GR
- : 2SK30Y
- : 2SA970 GR
- : 50M1

C304

correct polarity
(+) at R309

I.C.S

- IC 301~303 : TC4011BP HD14011BP
- IC 304~306 : TC4013BP HD14013BP
- IC 307~308 : TC4093BP HD4093
- IC 309 : MN3009
- IC 310 : MN3101
- IC 311 : μ PC4558C
- IC 312 : BA662

DIODES

- : 1S2493 M8555

SWITCHES

- SW301 SW310 : KHC11901

TABLETS

- SW301 SW304 SW305 SW308 SW309 : WHITE
- SW303 SW307 SW310 : ORANGE
- SW306 : YELLOW
- SW302 : RED

SWITCH BOARD
OPH135A

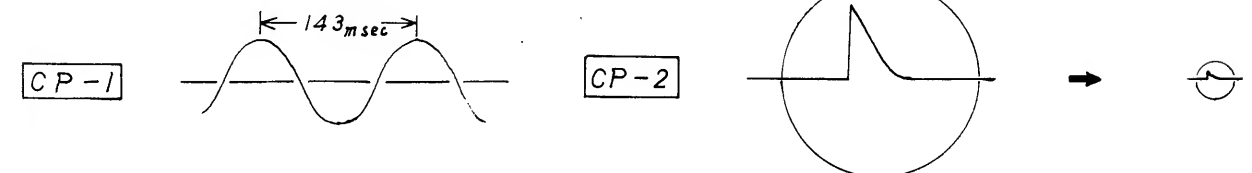
ADJUSTMENT

VIBRATO RATE

Switch VIBRATO "FAST" to ON.
Set VR301 for the waveform
below.

PERCUSSION DC BALANCE

Switch the PERCUSSIONS to OFF.
Push the DRAWBARS to 0 (zero).
Set VR302 for minimum key click.



OPH135B (149H135B) (pcb 052H324B)

below, with serial number 092300

Parts soldered at foil side of OPH135A are mounted on component side.
(C344 - C348, R347, R348, R359)

